

NOTES ON AUSTRALIAN ISOPODA.

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(a) **The Genus *Serolis*, Leach.**

Figs. 1-14.

The following notes on the Australian Serolidae are based on the examination of a small collection belonging to the South Australian Museum, Adelaide, which has been kindly sent to me for investigation. Most of them were collected in Gulf St. Vincent by Dr. J. C. Verco, and the remainder by a private party of which Mr. Edgar R. Waite, Director of the Museum, was a member.

The Serolidae form a peculiar family of the Isopods containing the single genus, *Serolis*, with about 25 species. They are characterized by the much-depressed body, round or oval in form, with widely-developed epimera. The first peraeon segment has the epimeral portion very largely developed and produced forwards so as to enclose the head shield on both sides. Beddard considers this first segment to be formed by the dorsal fusion of two segments, *i.e.*, those bearing the maxillipeds and the first pair of legs (gnathopods); in some species there is an incomplete transverse suture on the first epimera which "seems to mark the line of division between the two segments dorsally" (Beddard: 1884, p. 8).⁽¹⁾ The terminal segment of the peraeon is vestigial, its tergum being unrepresented and its appendages smaller than those preceding. The pleon consists of three free segments and a caudal shield. In the appendages the first pair of legs are developed into characteristic subchelate gnathopods, and the second pair in the male may also be subchelate, though of very much smaller size than the first; the remaining pairs of legs are of the usual character, and are used for walking, or perhaps also to some extent for swimming. In the pleon the first three pairs of pleopoda differ markedly from the fourth and fifth, and form flat leaf-like swimmerets abundantly provided with hairs. The fourth and fifth are branchial, and consist of a basal joint with lamellar outer

(1) The references are made by the year of publication to the list at end of this paper.

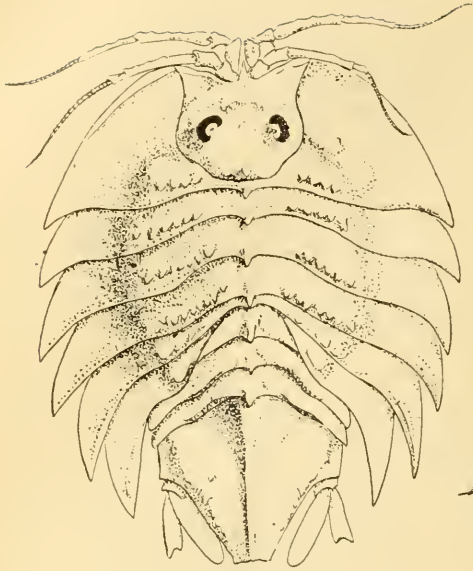


Fig. 1.
Serolis tuberculata, dorsal view.

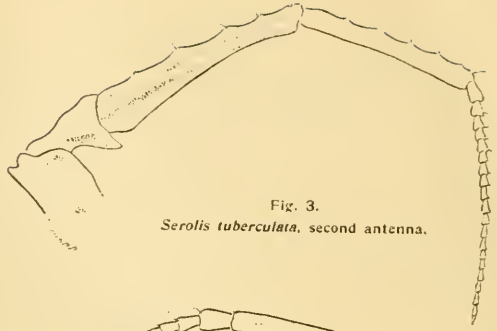


Fig. 3.
Serolis tuberculata, second antenna.

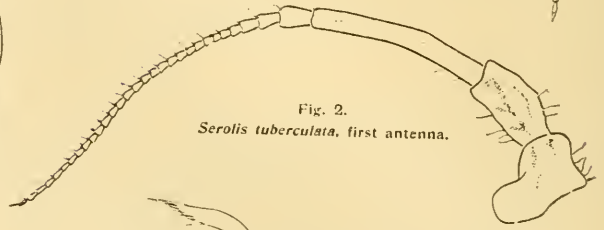


Fig. 2.
Serolis tuberculata, first antenna.



Fig. 5.
Serolis tuberculata,
first maxilla.



Fig. 7.
Serolis tuberculata, maxilliped.



Fig. 6.
Serolis tuberculata,
second maxilla.

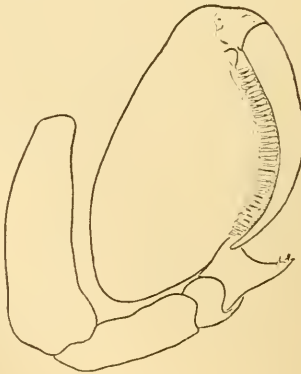


Fig. 8.
Serolis tuberculata, first pair of
legs (gnathopods).

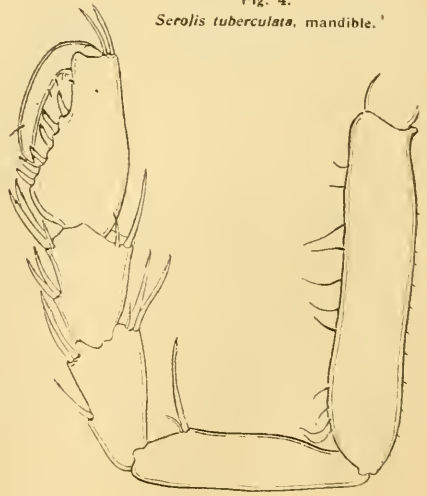


Fig. 4.
Serolis tuberculata, mandible.

Fig. 9.
Serolis tuberculata, second pair of legs of male
(more highly magnified than fig. 8).

and inner branches, which act as gills, the outer branch of the fourth being stouter, and forming an operculum divided by a transverse suture. The terminal appendages, or uropoda, are small and of the usual character, consisting of a short basal joint and flat inner and outer branches.

The whole of the species of the genus known up to 1884 were fully worked out by Mr. F. E. Beddard in his Report on the Isopoda of the "Challenger" Expedition, in which he also considered the geographical distribution of the group, pointing out that the species are confined almost entirely to the Southern Hemisphere, and have probably arisen on the shores of the South Polar Continent and thence spread northwards.

Mr. Beddard also drew attention to the fact that the six species then known from Australia form a well-marked division of the genus, being characterized by the fact that the tergum of the fifth segment of the pereon is extremely narrow and that of the sixth obsolete in the middle line, and that all the species are of small size.

Very little has been added to our knowledge of the group since the publication of Mr. Beddard's paper. All the six Australian species were obtained by Mr. Waite on the "Thetis" Expedition, and were recorded in 1901 by Mr. T. Whitelegge in his Report on the Isopoda. In one or two cases he gave additional facts regarding their size and structure.

In the collection belonging to the South Australian Museum four of these species are represented, *viz.*, *S. tuberculata*, *S. australiensis*, *S. longicaudata*, *S. minuta*, and there are also specimens which I am describing as a new species, *S. bakeri*, closely allied to *Serolis minuta*. The other two Australian species are *S. elongata* and *S. pallida*. I have seen no specimens of the latter, but I have been able to examine a specimen of *S. elongata* in the collections made by the F.I.S. "Endeavour."

I give below a few additional notes and figures of some of the species where they appear to be necessary, but there is comparatively little to be added to the very full account given by Beddard in 1884.

Genus SEROLIS, Leach, 1818.

List of Australian species, with localities:—

Serolis tuberculata, Grube, 1875.

Bass Strait (Grube); Bass Strait, 38-40 fathoms ("Challenger," Stations 161 and 162); Newcastle Bight, 24-27 fathoms ("Thetis," Station 33); Gulf St. Vincent, 4 fathoms (Edgar R. Waite); St. Francis Island, South Australia, 6-13 fathoms (Dr. J. C. Verco).

S. australiensis, Beddard, 1884.

Bass Strait, 38 fathoms ("Challenger," Station 36); off Botany Bay, 20-23 fathoms ("Thetis," Station 36); South Australian coast (Dr. J. C. Verco).

S. elongata, Beddard, 1884.

Port Jackson, 30 fathoms ("Challenger"); off Cape Three Points, 41-50 fathoms ("Thetis," Station 13).

S. longicaudata, Beddard, 1884.

Off entrance to Port Phillip, 33 fathoms ("Challenger," Station 161); off Gibbon, 46-50 fathoms ("Thetis," Station 38); off St. Francis Island, South Australia, 6-13 fathoms (Dr. J. C. Verco).

S. pallida, Beddard, 1884.

Bass Strait, 38 fathoms ("Challenger," Station 162); off Port Jackson, 30-35 fathoms ("Challenger," Station 163); off Cape Three Points, 41-50 fathoms ("Thetis," Station 13).

S. minuta, Beddard, 1884.

Entrance to Port Phillip, 38 fathoms ("Challenger," Station 161); off St. Francis Island, South Australia, 6-13 fathoms (Dr. J. C. Verco).

S. bakeri, n. sp.

Encounter Bay, South Australia, 20-30 fathoms (Dr. J. C. Verco).

SEROLIS TUBERCULATA, Grube.

Figs. 1-9.

Serolis tuberculata, Grube: Archiv. f. Naturgesch., 1875, p. 227; Beddard: 1884, "Challenger" Reports, vol. ii., p. 67, pl. vi., figs. 1, 2; Whitelegge: 1901, "Thetis" Sci. Results, Austr. Mus., Mem. iv., p. 236.

Dredged by Dr. Verco, South Australian coast, many specimens.

Gulf St. Vincent, 4 fathoms, sand, Edgar R. Waite, 12/2/17, 3 specimens.

Petrel Bay, St. Francis Island, dredged by Dr. Verco, 6-13 fathoms, 2 specimens.

These specimens agree well with the figures given by Beddard. I have not been able to see Grube's paper. One specimen examined is 18 mm. in length and about 14 mm. broad, and is therefore about the same as the larger of the two specimens examined by Beddard, which had been obtained in Bass Strait by the "Challenger" Expedition. Grube's specimens also came from Bass Strait.

The species seems to be a common one off the southern coasts of Australia, the specimens of it in the small collection sent to me from South Australia far outnumbering all the other species together.

As Grube's paper is not readily accessible in Australia, and Beddard, in consequence of Grube's full description, did not describe the appendages very fully, I have added one or two additional notes and figures descriptive of the species. It is readily distinguished from the other Australian species by the series of pointed tubercles along the posterior margins of the anterior segments of the peraeon, by the median tubercles on all the segments, and by the uropods having the outer branch considerably shorter than the inner, with the posterior end concave (see fig. 1).

The rostrum is long, reaching to the end of the first peduncular joint of the first antenna.

The tubercles along the posterior margin of the peraeon segments vary in the different segments and to some extent in different specimens. They are most numerous in the fourth (*i.e.*, the third free segment), where they are, in the specimen drawn, nine on each side; on the first segment there are only four on each side, on the second six, and on the third seven. On the fifth and sixth segments again they are reduced to one or two indistinct tubercles on a slight ridge.

The first antenna (fig. 2) has the basal joint broadly dilated, the second considerably longer than the first and slightly ridged on the upper-surface, the third joint considerably longer than the first and second together and with a slight ridge on its upper-surface, the fourth joint is small, the flagellum contains about 25 joints and is slightly longer than the peduncle. The second antenna (fig. 3) is well characterized by the pointed projection of the third joint on its posterior aspect and by the ridge on the upper-surface, the fourth joint is rather longer than the fifth, it is slightly widened at the base, narrowing towards the distal end, the outer surface bears five slight projections bearing small tufts of hairs, the upper-surface is distinctly ridged along the whole length; the fifth joint is more slender but otherwise similar; the flagellum contains about 20 joints, and is rather longer than the fifth joint of the peduncle. The mandible (fig. 4) is of normal shape characteristic of the genus, the basal portion having its distal end bent inwards and ending in four stout teeth; the palp is much longer than the mandible itself, its second joint is the longest and bears on the outer margin towards the distal end a distinct row of setae, the third joint is a little more than one-third the length of the second. The first maxilla (fig. 5) has the outer lobe considerably curved and ending in about a dozen stout spinules. The inner lobe is very small and narrows to the subacute apex, which bears a single short spinule. The second maxilla (fig. 6) has the two outer lobes narrow with the margins

irregularly and finely serrate and the extremities bearing only two long setae in each case; the inner lobe is much broader and bears on its rounded extremity about a dozen long stout setae, and on the inner surface a small tuft of fine hairs. The maxilliped (fig. 7) is similar in general shape to that of *S. australiensis*; the first joint of the palp is very short, bears a few spines on its surface, the second is much the longest and has the inner margin produced and bearing a regular row of stout setae; there are also four setae in a line on its outer surface and some fine hairs near the outer margin; the terminal joint is rather more than half the length of the second and bears a tuft of stout setae at its extremity.

The first pair of legs is shown in fig. 8; they are, as usual, modified into powerful subchelate gnathopoda, the ischial joint is particularly long and slender, the carpus is produced inwards into a long acute process bearing two spinules, the palm is armed with the characteristic spinules and the finger is long, extending along the whole length of the palm. In the second pair of legs (fig. 9) of the male the ischium is very long, the merus and carpus subequal, propod narrowing distally, and with the palm armed with two rows of six stout spinules each. In this appendage, as well as in the first pair, there is a pretty close resemblance to the corresponding appendage of *S. pallida* as figured by Beddard.

The sternal surface of each of the first three pleon segments is produced in the median line into a stout tooth directed backwards; the tooth on the first segment is the largest and overlaps the next, just as in *S. australiensis*. These teeth appear to be equally developed in male and female.

The caudal plate has the extremity transverse and straight, but with the lateral margins slightly bent in, so that the posterior margin may appear curved when viewed from behind. The uropods have the outer branch about two-thirds the length of the inner one, the end being concave; the inner branch has the extremity rounded.

SEROLIS AUSTRALIENSIS, Beddard.

Fig. 10.

Serolis australiensis, Beddard: 1884, *l.c.*, p. 69, pl. vi., figs. 3-6; Whitelegge: 1901, *l.c.*, p. 237.

South Australian coast (precise locality not given), 1 specimen (Dr. J. C. Verco).

This specimen is a male, 10 mm. long and 8 mm. broad, and agrees well with Beddard's description in having the whole of the dorsal surface covered with great numbers of rounded tubercles, the tubercles being very distinct on the

terminal portion of the body. The rostrum is long, reaching to the end of the first segment of the peduncle of the first antenna. The terminal segment has the posterior margin truncate and slightly emarginate. The ventral surface of the first segment of the pleon is produced into a particularly stout tooth, covering those on the next two segments. The first antenna has the flagellum long, composed of about 50 rather short joints. In the uropoda the outer branch is shorter than the inner, it ends truncately and has the outer and posterior margin obscurely serrate; the inner branch reaches to the end of the terminal segment, and has the end rounded (see fig. 10).

SEROLIS LONGICAUDATA, Beddard.

Fig. 11.

Serolis longicaudata, Beddard: 1884, *l.c.*, p. 72, pl. vii., figs. 8-10, and pl. viii., figs. 1, 2; Whitelegge: 1901, *l.c.*, p. 237.

Off St. Francis Island, 6-13 fathoms, collected by Dr. Verco, 2 males, length 8 mm., breadth 5 mm.

In the shape of the body, the short epimera, long rostrum, and long pleon with incurved sides, these specimens agree with Beddard's description. The antennae and other appendages are also closely similar to those described by him, and I have no doubt that the specimens belong to this species. The "Challenger" Expedition obtained only one immature female, though on pl. viii., presumably by misprint, it is described as a male.

Beddard says "the cephalic shield as well as the rest of the body is quite smooth, and free from tubercles" (1884, p. 73). In the two small specimens that I have examined there is a distinct median keel, and the median tubercles are fairly distinct on the three free segments of the pleon, and to a less extent on the peraeon segments. The first three segments of pleon bear median teeth on the ventral surface, as in *S. tuberculata* and *S. australiensis*, and the first is the largest, but I cannot make out the "fenestrae" described in it by Beddard. The terminal segment has the posterior margin concave. In the uropoda the two branches are subequal, the outer one being only very slightly shorter than the inner; it is crenate at the end; the inner branch has the end rounded and with small crenations (fig. 11).

SEROLIS MINUTA, Beddard.

Serolis minuta, Beddard: 1884, *l.c.*, p. 77, pl. vii., figs. 2-6; Whitelegge: 1901, *l.c.*, p. 237.

Off St. Francis Island, 6-13 fathoms, collected by Dr. J. C. Verco, 2 females.

Both these specimens are females bearing eggs; the larger is 8 mm. long and 7 mm. broad, the other being very slightly smaller. They are thus rather larger than the single male specimen obtained by the "Challenger," the dimensions of which Beddard gives as 5 mm. long and 5 mm. broad. The specimens agree closely with the description given by Beddard in having the body almost circular and rostrum short, the head with three blunt tubercles on the posterior margin and the following segments with a blunt median tubercle on the posterior margin, the free segments also having a lateral tubercle on the tergal portion close to its junction with the epimeral portion. The characters of the pleon and of the uropods are in close agreement with Beddard's description.

Both specimens, however, differ slightly in having 2 or 3 small tubercles on each side of the first free segment and of the next 2 or 3 segments, the tubercles being arranged in a row near the posterior margin much as in *S. tuberculata*, though they are less marked than in that species. Beddard makes no mention of these in his single male specimen, and it is possible, therefore, that they are found in the female only, or perhaps they were not developed in his slightly smaller specimen.

The ventral surfaces of the first three pleon segments are nearly straight, and are not produced into teeth, as in the preceding species.

SEROLIS BAKERI, n. sp.

Figs. 12-14.

Encounter Bay, 20-30 fathoms, 2 males, 3 females with eggs (Dr. J. C. Verco).

These specimens from Encounter Bay come very near to the previous species, *S. minuta*, and they may be only a variety of it, but in one or two characters they differ from the description given by Beddard, and I am provisionally describing them as a new species. They are rather smaller than the specimens of *S. minuta*, one of the ovigerous females being 6 mm. long and 5 mm. broad; the males are approximately the same size as the females.

The head agrees with Beddard's description of *S. minuta* in bearing three blunt, rounded tubercles near the posterior margin. The following segments of the body have the posterior margins straight, or very nearly so, and there is no indication of the blunt, median tubercle except to a very slight extent in the third pleon segment. The lateral tubercles, or processes, which are situated on the tergal portion of each segment near the junction with the epimeral

portion in *S. minuta* are also quite absent. The terminal segment, however, is distinctly keeled and has the lateral margins slightly curving inwards. The lateral margins of the epimera are smooth and without serrations, but in some cases they bear a few small hairs.

The antennae are similar to those of *S. minuta*. The first pair of legs (fig. 12) are similar to those of *S. minuta*, the setae on the palm of the first pair are of similar shape; the second pair in the male (fig. 13) has the palm provided with two rows of 4 or 5 stout setae each, the dactyl has a terminal portion separate from the broader basal portion, but shorter than the corresponding part in *S. minuta*. The remaining legs bear long slender setae, but apparently no serrated spines. In the uropoda (fig. 14) both branches are narrow and have the posterior margins dentate, the dentations being most distinct on the outer branch, which is very slightly shorter than the inner.

Specific Diagnosis.

Body almost circular, caudal shield projecting only a little beyond the outline of the circle. Rostrum very short. Posterior margin of head provided with three blunt tubercles. Terminal segment with extremity narrow and rounded, its dorsal surface with conspicuous keel. Dorsal surface of body smooth and without median and lateral tubercles. Epimera of sixth segment of peraeon extending to the first third of the caudal shield, those of the third pleon segment reaching to the middle of the shield. Uropoda with both branches narrow, outer with external margin obscurely serrate, end dentate or crenate, and with one or two hairs, inner branch a little longer and with end less distinctly serrate.

In other respects resembling *S. minuta*.

Length, 6 mm.; breadth, 5 mm.

Locality.—Encounter Bay, South Australian coast.

I have pleasure in naming this species after Mr. W. H. Baker, F.L.S., Hon. Curator in Crustacea at the South Australian Museum, who has done so much good work on the Crustacea of South Australia.

(b) *On Deto marina*, Chilton.

Figs. 15-21.

About two years ago I published a paper (1915) on the terrestrial Isopoda belonging to the genus *Deto* in which I recognized the following species:—*D. echinata*, Guérin, and *D. acinosa*, Budde-Lund, from Cape Colony; *D. armata*, Budde-Lund, from St. Paul Island, Indian Ocean; *D. marina*,



Fig. 10.

Serolis australiensis, caudal plate and uropod, from above.

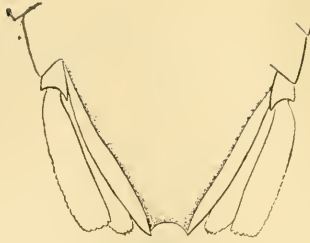


Fig. 11.

Serolis longicaudata, caudal plate and uropods, from below.

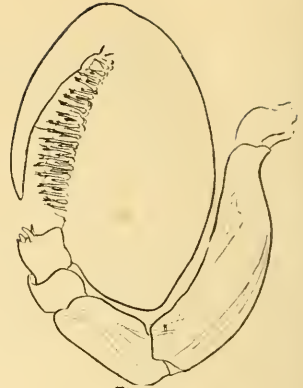


Fig. 12.

Serolis bakeri, first pair of legs (gnathopods).



Fig. 13.

Serolis bakeri, second pair of legs of male.

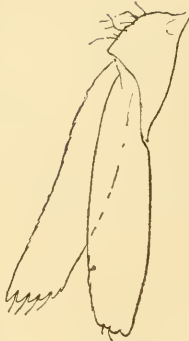


Fig. 14.

Serolis bakeri, uropods, from below.

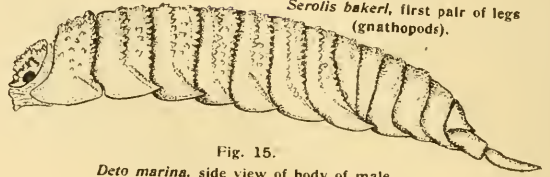


Fig. 15.

Deto marina, side view of body of male.

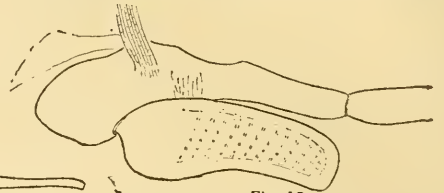


Fig. 18.

Deto marina, first pleopod of female.

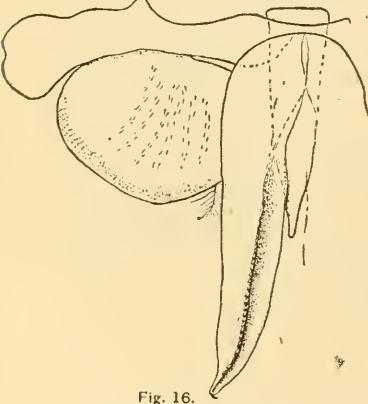


Fig. 16.

Deto marina, first pleopod of male, posterior aspect.

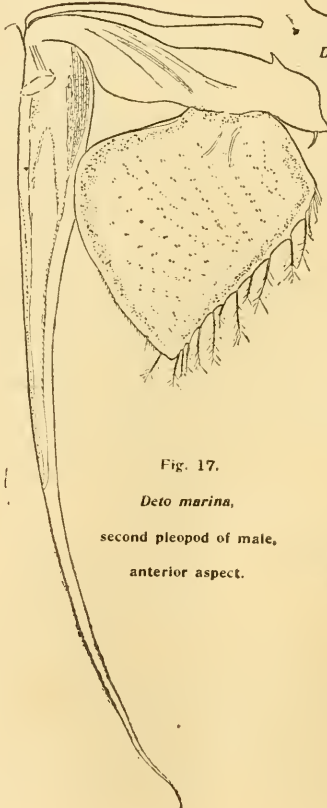


Fig. 17.

Deto marina, second pleopod of male, anterior aspect.

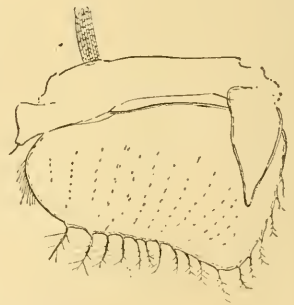


Fig. 19.

Deto marina, second pleopod of female.

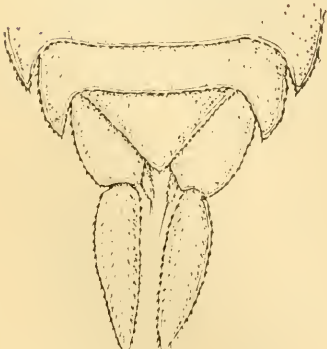


Fig. 20.

Deto marina, terminal portion of pleon and uropoda of male.

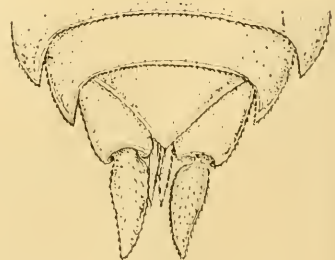


Fig. 21.

Deto marina, terminal portion of pleon and uropoda of female.

Chilton, from Coogee Bay, New South Wales; *D. aucklandiae*, G. M. Thomson, from Lord Auckland Islands, New Zealand; and *D. bucculenta*, Nicolet, from New Zealand and from Valparaiso Bay, South America. The species are all found on the sea shore at or near high-water mark, and show striking secondary sexual characters which differ considerably in the different species.

At the time of writing the paper I had only the few original specimens of *D. marina*, of which only one female was mature, and the description of this species was therefore somewhat imperfect. I added to it the remark (1915, p. 445), "The adult male is not known; it will be interesting to see in what characters it differs from the female." Some months after the MS. had been despatched to the printer, I received from Mr. W. H. Baker, of Adelaide, a few specimens of an Isopod that he had collected on the shore of Kangaroo Island, South Australia. On examination these proved to belong to *Deto marina*, and among them were adult males and females. I am therefore able now to complete my description by adding that of the adult male and to point out the sexual characters. In this case the male characters prove to be a greater elongation of the uropoda, and a more distinctly tuberculated character of the dorsal surface of the body. The antennae, which show such marked sexual dimorphism in *D. aucklandiae*, are practically the same in both sexes in *D. marina*, and there is no sign of the dilatation of the first pereon segment in the male such as occurs in *D. bucculenta*. At the same time I give a description and figures of the first and second pleopoda of the male and female, from which it will be seen that they are in close general agreement with those of the other species.

The specific description I gave in 1915 applies with very slight modification to the females from Kangaroo Island. In the following account I have drawn up a corresponding description of the male.

DETO MARINA, Chilton.

Figs. 15-21.

Philougria marina, Chilton: 1884, p. 463, pl. xi.; Stebbing: 1900, p. 565; Chilton: 1901, p. 128.

Deto marina, Budde-Lund: 1906, p. 85, pl. iv., figs. 39-41; Chilton: 1915, p. 444, pl. xxxix., figs. 19-23.

Specific Description.

♂. Body oblong-oval, length rather more than twice the greatest breadth. Head with surface covered with irregular rather spinose tubercles, front projecting into a triangular lobe ending subacutely, lateral lobes very broad. Eyes large, on rounded prominences raised above the lateral lobes.

Surface of peraeon with numerous acute tubercles, forming a fairly well-marked row along the posterior margin with another row less distinct situated more anteriorly on each segment, a few tubercles irregularly scattered between the two rows; epimera not greatly expanded, all united with the segment without sign of suture, each with a distinct oblique ridge marked with small pointed tubercles, running outwards and backwards to the posterior angle. Segments 3, 4, and 5 of pleon with well-developed epimera which have the posterior angles acute, terminal segment triangular, its extremity rounded.

Antennae about half the length of the body, slender, fifth joint slightly longer than the third and fourth together; flagellum as long as the fourth, with the first joint longer than the second, which is slightly longer than the third, fourth slender, about half as long as the preceding, and merging almost imperceptibly into a pencil of very short setae, whole surface of antenna covered with minute short spinules and fine short setae.

Legs subequal in length, the posterior ones only slightly increasing in length; all rather spiny, the largest spine, which splits towards the end, being situated near the distal end of the carpus.

Uropoda with base broad, reaching distinctly beyond the end of the terminal segment; outer ramus nearly twice as long as the base, broad, lanceolate, slightly flattened; whole surface covered with minute spinules; inner ramus arising more anteriorly, slender, only slightly tapering, ending with pencil of long setae and reaching only slightly beyond the base (fig. 20).

Length, 11 mm.; breadth, 5 mm.

♀. Differing from the male in having the body less distinctly tuberculated; epimera 2, 3, and 4 separated from their segments by a fine suture, and the uropoda much less elongated, the outer ramus being only as long as the base and the inner ramus reaching about half-way along the outer (fig. 21).

Dimensions of the ovigerous female examined. Length, 10 mm.; breadth, 4 mm.

Colour.—Yellowish, with markings of dark brown.

Habitat.—Coogee Bay, near Port Jackson, New South Wales (C. Chilton); Kangaroo Island, South Australia (W. H. Baker).

The pleopoda of the male agree generally in shape with those of *D. acinosa*. In the first pleopod (fig. 16) the inner branch forms a stout appendage about twice as long as the male organ and having the inner portion hollowed on the

posterior aspect and separated from the outer portion by a ridge marked with a number of short blunt teeth; the outer branch forms a flat plate, oval in shape, and bearing only one plumose seta towards the inner side. In the second pleopod (fig. 17) the inner branch is very long, ending acutely, its basal portion is broad and not distinctly articulated to the distal part; on its anterior surface there is a groove, extending about half-way along the whole appendage and apparently fitting against the inner portion of the endopod of the first pleopod which closes the groove and forms the anterior wall of the tube thus formed. The outer branch is irregularly rhomboidal, having the outer margin fringed with a few sparsely plumose hairs, the inner margin with a few small short setae.

In the ovigerous female the first pleopod (fig. 18) consists of the outer branch only which forms a broad oblong plate with rounded corners, as shown in fig 18; there is no sign of the inner branch. The second pleopod (fig. 19) has the outer branch slightly produced on the inner side, so as to be rather more triangular, the inner and posterior margins bearing a number of sparsely plumose setae; the inner branch is represented by a stout triangular process ending acutely, indistinctly separated from the basal portion and much shorter than the outer branch.

The mouth-parts have been already partially figured by Budde-Lund. They show a close general resemblance to those of other species, *e.g.*, *D. acinosa*, and do not call for a detailed description.

In *D. marina*, as in *D. aucklandiae*, the epimera 2, 3, and 4 of the peraeon are separated from their respective segments by a fine but distinct sutural line, while in the male they have completely coalesced with the segments. A similar sexual difference is found in *Ligia exotica* and in some other species. For further information on this point see my paper on "Some Terrestrial Isopoda from the shore of Chilka Lake" (1916, p. 465).

From the description thus given it will be seen that *D. marina* is closely allied to *D. acinosa*, from Cape Colony, the pleopoda both of male and female being closely similar. It can therefore stand with *D. echinata*, *D. armata*, and *D. acinosa*, in the subgenus *Deto*, Budde-Lund, as being somewhat distinct from *D. aucklandiae* and *D. bucculenta*, which form the subgenus *Vinneta*, Budde-Lund. The relationships thus indicated agree well with the distribution of the species and help us to understand how they arrived at the localities where they now exist, the species of the subgenus *Deto* being now found at Cape Colony, St. Paul Island in the Indian

Ocean, and Australia: while those of the subgenus *Vinneta* occur at New Zealand and neighbouring islands, and at Chile in South America.

For further general remarks reference may be made to my paper on the genus (1915, p. 453). Since it was published I have personally collected many specimens of *Deto bucculenta*, Nicolet, on the shores of Paterson Inlet, Stewart Island, New Zealand, and have examined others collected by Mr. W. R. B. Oliver "under stones near high-water mark, Waitangi, Chatham Islands."

In Stewart Island the animals were found under stones and boulders on the rocky shore at or slightly below high-water mark, being often covered at high tide. They were found along with *Ligia novae-zealandiae*, *Erosphaeroma gigas*, etc. When disturbed they either remain quite still or walk slowly only, and are easily captured, thus forming a marked contrast to *Ligia novae-zealandiae*, which runs with great rapidity.

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